

3. A multi-site injection system comprising:

a guide plate having a plurality of openings therethrough;

5 a needle plate having a plurality of needles projecting therefrom, each needle being aligned with a corresponding opening in said guide plate, said needle plate being movable from a first position with the needles positioned behind a top surface of said guide plate to a
10 second position with the needles projecting from the top surface through the openings; and

a plunger base for moving said needle plate from the first to the second position.

15 4. The system according to claim 3 wherein said plunger bore includes a reservoir for medicament and needles include lumen therethrough in communication with said reservoir for delivery of the medicament into a stratum corneum of a users skin.

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5. The system according to claim 3 wherein the needles and opening are arranged in a symmetric radial pattern.

25 6. The system according to claim 3 wherein the needles and opening are arranged in an asymmetric radial pattern.

7. A multi-site injection system comprising:

30 a needle plate;

a plurality of hollow needles, fixed to an outside of said needle plate, for transport of a medicament from an

inside of said needle plate and into a stratum corneum of a user;

a pressurizer disposed over an inside of said needle plate to form a cavity therebetween in communication
5 with the needles; and

an injection port disposed in said pressurizer for introducing the medicament into said cavity.

8. The system according to claim 7 wherein said
10 pressurizer is flexible for causing uniform transport of the medicament through the needles.

9. A multi-site injection system comprising:
a needle plate having an inside and an outside;
15 a pressurizer disposed on the needle plate inside to form a cavity therebetween;
a medicament disposed in said cavity;
a plurality of needles disposed on the needle plate outside each needle having a lumen in fluid
20 communication with said cavity for transport of the medicament into a stratum corneum of a user; and
means for forcing medicament from said cavity through needle lumens.

25 10. The system according to claim 9 wherein the means for forcing medicament comprises an injection port disposed in said pressurizer.

11. The system according to claim 10 wherein said
30 pressurizer is flexible for causing transport of the medicament through the needle lumen.

12. A multi-site injection system comprising:
a handle;
a syringe supported by said handle and including a
plunger for dispensing a fluid medicament from said syringe;
5 a manifold attached to one end of said handle and
in fluid communication with said syringe;
a plurality of needles, protruding from said
manifold, for delivery of said fluid medicament from said
manifold and into a stratum corneum of a user.
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13. The system according to claim 12 wherein said
manifold is disposed perpendicular to said handle.
14. The system according to claim 12 wherein said
15 manifold comprises a plurality of concentric conduits
interconnected with radial conduits.
15. The system according to claim 14 wherein the
concentric conduits are radially spaced apart from one
20 another.
16. The system according to claim 15 further
comprising a transparent sheet interconnecting the
concentric and radial conduits for enabling visual
25 orientation of said manifold onto a patients skin by
manipulation of said handle.
17. A multi-site injection system comprising:
a carrier sheet including a plurality of
30 medicament filled rupturable blisters disposed on an inside
surface thereof;

a plurality of needles extending from an outside surface of said carrier sheet, each needle being aligned with a corresponding blister and having a lumen for transport of the medicament into a stratum corneum of a user, each needle traversing said carrier sheet and positioned for rupturing the corresponding blister; and

a pressure plate disposed on the carrier sheet inside surface for forcing the blister against the needles for causing rupture thereof and forcing the medicament through the needle lumens.

18. The system according to claim 17 wherein said pressure plate is fixed to said carrier sheet.

15 19. A multi-site injection system comprising:

a shell including a top and a bottom;

a plurality of needles protruding from the shell bottom, each needle including a lumen extending through the shell bottom;

20 a membrane disposed between the shell top and shell bottom;

an inlet for introducing a fluid between the shell top and the shell bottom; and

a diverter for selectively directing fluid between the membrane and the shell bottom and between the membrane and the shell top.

20. The system according to claim 19 wherein said diverter includes a manually operated valve.

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21. A method of multi-site injection comprises:

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providing a shell including a top and a bottom,
said bottom having a plurality of needles protruding
therefrom with each needle including a lumen therethrough
and extending through the shell bottom;

5 providing a membrane between the shell top and the
shell bottom;

introducing a medicament between the membrane and
the shell bottom; and

10 introducing a pressurized fluid between the
membrane and the shell top for forcing the medicament
through the needle lumen.